**Operating Reserves Work Group – February 6, 2003**
**Flexibility Small Group (Items 2, 3 & 4)**

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The Small Group tasked with drafting proposals to address Operating Reserve Items #2, #3 and #4, which I have nicknamed the Flexibility Small Group, met from 15:45 to 16:45 on February 6, 2003.

- There was consensus that any proposals should reference the existing Operating Reserves – Spinning and Supplemental Services Business Practice. Given that the business practice posted on August 17, 2001 is still in effect even though BPAT posted a draft revision on August 14, 2002, the Operating Reserve Work Group will need to consider both documents. Ultimately, one of the objectives of the Operating Reserve Work Group will be to help BPAT finalise revisions to its Operating Reserves Business Practice.

- Flexibility issues should be classified according to the type of change that is saught:
    - Modification or Clarification to Existing Business Practice;
    - Creation of a new Business Practice;
    - Change specifications for BPAT's current computer programs;
    - Technical Requirements for BPAT's future computer programs;
    - Change Rate Design in future;
    - Change Tariff in future;
    - Document the issue for future resolution;

- Customers had identified four areas of flexibility that they would like to explore:
    1. Election periods that are shorter than one year;
    2. Allowing multiple Operating Reserve Suppliers for each TCH;
    3. Allowing generators to self supply operating reserve;
    4. Allowing interruptible energy exports from the BPAT control area;

    The small group discussed the first two issues.

- At the work group meeting earlier in the afternoon Rick Pascal had suggested three principals for all parties to keep in mind when considering proposals. They are resummarized here as they provide a helpful frame of reference for subsequent proposals.

    All system and business practice changes should reflect:

    - Cost consciousness;
    - Enhanced flexibility;
    - Ease of Administration for customers and BPAT.

1. Election periods that are shorter than one year:

- BPAT & BPAP stated that qualified customers are free to self-supply or choose a 3rd party supplier, however, if they do then BPA expects them to do so for a full year. Given that BPAP has committed to an annual Operating Reserves rate, it does not want to see cherry picking (i.e. a TCH self-supplying in the months when it is economic and then falling back on the BPA system during the uneconomic months);

    - Question: Given that the time required to establish the ability to dynamically schedule operating reserve energy can stretch over several months and could result in the October to September window being missed, why not let customers self-provide or 3rd party supply operating reserves with three months notice provided they commit to doing this for a minimum of 12 months?

- Issues associated with shorter election periods are summarized below:
    - Given that TCH bills are prepared monthly with RODs, it would probably not make sense to consider election periods shorter than one month;
    - Given the need to train scheduling staff on changes to the way operating reserves will be be supplied and the number of accounts that need to be built in the existing RODs system, the administrative costs associated with RODs could probably not be justified for election periods shorter than 3 months;

- If customers want monthly or quarterly election periods then they should identify this as a need by ?__ _____ 2003? so that the rate design and tariff proposals for the F2006 rate case can be developed to address this need. It would also be necessary to ensure that the new Scheduling System will support shorter election periods.

**Action Item:** BPAT to present how the new Scheduling System will permit customers to self-supply or 3rd party supply Operating Reserves. Discuss how the BPAT Schedulers would see Self-supply or 3rd party supply of Operating Reserves, how much work it would be for the Schedulers, Dispatchers and After-the-fact staff to administer changes to a TCH's operating reserve supply option. Also discuss what the practical limitations on the election period would be with the new scheduling system.

**Action Item:** Customers should develop a white paper on what sort of election period options they will want in the future.

**Action Item:** Customers who are interested in either self-supplying or becoming a qualified 3rd party supplier of Operating Reserves are encouraged to approach BPAT before 15 March 2003 as there could be synergies for BPAT to set up several self suppliers or 3rd party suppliers at once.

2. Allowing multiple Operating Reserve Suppliers for each TCH:

- BPAP was primarily concerned that TCHs who elect to have a 3rd party do so for the full 12 month period (Oct – Sep). Provided that qualified and reliable 3rd parties were involved, then BPAP was not concerned if a TCH had more than one Operating Reserve Supplier;

- BPAT wanted clarification on whether customers envisaged having multiple suppliers over the course of 12 months, or whether they wanted to have multiple suppliers during a given month:
    - BPAT's sense was that the administration required to build and manage all the accounts associated with multiple 3rd party suppliers in a given month would be very onerous;
    - BPAT thought that it might be possible with the current RODs scheduling system to allow a TCH to change the 3rd party once a quarter.

- Given BPAT's sense that it may be able to accommodate quarterly changes to the qualified 3rd party supplier who is supplying operating reserves for a particular TCH, the following proposal was suggested:
    - A Transmission Customer who elects to have a 3rd party supply operating reserves may change its 3rd party supplier at the start of each quarter (i.e. Oct 1, Jan 1, Apr 1 and Jul 1) provided it gives 3 months notice and it identifies another 3rd party supplier of Operating Reserves who has already been approved by BPAT.

    - If approved then the Operating Reserves Business Practice would need be modified, in particular Section A. 5 b of the Aug 14, 2002 Draft Business Practice:

        Third party supplier means the Transmission Customer's total Operating Reserve Requirement is being met via contract with a resource operator that has agreed to meet the Customer's Operating Reserve Requirement obligation to BPAT. A third party supplier may provide service to more than one Transmission Customer. (Strike last sentence and replace with): *A Transmission Customer who elects to have a 3rd party supply operating reserves may change its 3rd party supplier at the start of each quarter (i.e. Oct 1, Jan 1, Apr 1 and Jul 1) provided it gives 3 months notice and it identifies another 3rd party supplier of Operating Reserves who has already been approved by BPAT.*

**Action Item:** When BPAT describes how the new Scheduling System will permit customers to 3rd party supply Operating Reserves, we should discuss what the practical limits are on the number of 3rd party suppliers that a TCH could contract with in any given month.

3. Allowing generators to self supply operating reserve:

This issue was not discussed by the Flexibility Small Group. However, to facilitate discussion I have tried to summarize some of the issues that would need to be addressed.

- Generator would need to meet the criteria spelled out in section C of the Operating Reserves Business Practice;

- RODs accounts could be set up with pointers that indicate a particular generator is the Operating Reserve supplier, however, there could be issues if a TCH wants to use its transmission rights to buy from Generator B rather than Generator A, who was set up to self-supply the Operating Reserves originally.

- BPAT would want to ensure that there was a measurable response following a command to dispatch operating reserve energy.

**Action Item:** A Transmission customer who wants this flexibility should need to write up an example so that we can work through the details of what would be required

4. Allowing interruptible energy exports from the BPAT control area:

This issue was not discussed by the Flexibility Small Group. However, to facilitate discussion I have tried to summarise some of the issues that would need to be addressed.

Interruptible energy (energy that can be curtailed within 10 minutes) is a recognised and tradable product within the WECC. It is possible for all control areas to know if a particular energy schedule is interruptible based on whether the interruptible field has been enabled on the schedule's E-tag. The reserve implications for interruptible energy schedules is that the sending control area does not have to carry any additional operating reserve obligation and the receiving control area is required to carry additional operating reserves equal to 100% of its interruptible imports.

**Action Item**: Powerex to discuss with BPAT whether there is a way for the current scheduling systems to accommodate interruptible energy schedules.

In the future the BPAT scheduling system should be able to identify interruptible export schedules, recognise that no additional operating reserves are required for these export schedules and be able to process cuts to these schedules mid-hour.

**Action Item:** BPAT to present how the new Scheduling System will track interruptible schedules and how it will be able to curtail these schedules mid-hour.

Issues that have been raised during Operating Reserve discussions:

- *How to ensure that BPA is able to calculate the incremental ORO supplied by a 3rd party for both real time and prescheduled schedules?*
    - RODs can handle this complexity already if the pointers in the accounts are set up correctly;
    - Will need to confirm when the Operating Reserve Group meets with the BPAT scheduling system programmers that the new scheduling system will handle this issue correctly.

- *Election Period: What is the shortest election period that would be practical given that the suitable accounts with correct pointers would need to be set up?*
    - This issue is discussed above under Item 1. One year is the minimum time that a customer could elect to self-supply or have one or more 3rd parties supply its Operating Reserve Obligations. Shorter election periods may be considered in subsequent rate periods.

- *Must a TCH have all of its resources within the TBL control area supplied by a 3rd party, or would it be possible to have more than one 3rd party supplier provided that the proper accounts were set up?*
    - This issue is discussed above under Item 2. Multiple, concurrent 3rd party suppliers would be very difficult to administer with the current RODs system. Need to investigate if this would be difficult to administer with the new scheduling system.

- *How to ensure a firm transmission path exists between the Operating Reserve Source and the TBL control area?*
    - A firm transmission demand account would be set up by BPAT in the RSPP to ensure that a firm path exists between the Operating Reserve Source and the BPA Network.

- *Would an E-tag need to be issued after operating reserve is dispatched from an adjacent control area?*
    - Under the current BPAT procedures an E-tag would not be issued. However, when operating reserves are dispatched schedules for the integrated amount of energy that was sent would need to be entered after-the-fact and the appropriate Net schedules corrected.

- *Why does TBL have to be the clearing house for all operating reserve energy transactions?*
    - The billing system is set up currently to credit and charge the TCHs for all operating reserve transactions, and as a result it will be up to the TCHs to settle with the generators that were forced out of service.
    - It would be worthwhile exploring with the programmers for the new scheduling system if the credits and charges for operating reserve energy could be streamlined (i.e. BPAT pay the 3rd parties supplying operating reserve directly, similarly it would directly charge generators in its control area that have been forced out of service)

- *How to handle false dispatch requests for Operating Reserve?*
    - The energy would be treated as inadvertent.

- *How to handle non-response from a 3rd party to an Operating Reserve dispatch?*
    - "Six failures to meet performance standards will be grounds for termination fo the self-supply provisions for Operating Reserves."

- *How to handle a forced outage of a unit like Centralia that would have multiple TCHs' picking up energy?*
    - If Centralia had a forced derate of 300 MW at XX:40 then the BPAT control area would provide 300 MW of operating reserves for 80 minutes, hence the integrated energy values would be 100 MW for the first hour and 300 MW for the second hour. BPAT would charge all of the TCHs that were picking up from Centralia for the operating reserves that were provided and in turn credit on a pro-rata basis all of the resources that supplied the operating reserves. It would be up to the TCHs to settle with Centralia after-the-fact.

- *Does the pro-rata reserve allocation program that BPAT uses rounds the amount of reserve to be delivered up in order to ensure compliance with the DCS standard? If so, won't this mean that the amount of reserve delivered will be greater than the amount of reserve that was required (i.e. for a 300 MW loss of generation the BPAT program may call for 309 MW of reserves to be delivered)?.*
    - BPAT to answer this question…

- *How could this scenario be applied to Slice customers?*
    - Slice customers are able to self-supply their operating reserves, contract with another slicer or a 3rd party to supply their operating reserves. However, slicers are not able to be the 3rd party supplier of Operating Reserves for a non-slice customer.

- *How will self-suppliers or 3rd party suppliers deliver their operating reserve energy when the BPAT control is being run on the Munroe EMS?*
    - The reserve software is not currently running on the Monroe EMS, hence, non-automated dispatch methods would be required;

- *How will the costs of providing self-supply or 3rd party supply of operating reserves be allocated?*
    - The general sense was the entity benefiting from the flexibility should pay for the start-up costs. On-going operating costs would be covered by TBL.

- *How will self-supply and 3rd party supply of operating reserves be handled when "the E-tag becomes the schedule"?*
    - This question needs to be answered by BPAT programmers working on the new scheduling system.

I reviewed the current Operating Reserve Business Practice to look for points of inconsistency this document and what was discussed in the Operating Reserves Work Group. Shown below are some initial comments.

- **CLARIFICATION OF CURRENT OPERATING RESERVE BUSINESS PRACTICE**
  (Section references made to Draft posted on August 14, 2002)

  How to reflect the Scheduling Requirements in the Op. Res. Business Practice?
  The current business practice focuses on the AGC requirements, as this is the primary area where changes would be required. However, it would be helpful to discuss the work that would be required to set up the necessary schedules between a TCH's self-supply resource and BPAT. Shown below are proposed changes that would clarify the scheduling requirements:

  Add new Section between B. 1. c and d:
  *The customer is responsible for costs associated with modifying TBL's scheduling displays to reflect how a transmission customer will supply its operating reserves. TBL will absorb the costs of building the accounts associated with the new operating reserve resource and all the counterparties that it may exchange operating reserve energy with (i.e. all of the generators located in the BPAT control area (approximately 30) and all the NWPP members who could call on reserve sharing (approximately 17)).*

  Clarify Section E. 1 and D. 4a & 4b:
  - From our work group discussions, I thought that the amount of operating reserve capacity that would need to be carried by a TCH self-supplying operating reserve would be:
    - 7% of the TCH's schedules originating that hour from thermal resources within the BPAT control area;
    - 5% of the TCH's schedules originating that hour from hydro resources within the BPAT control area and
    - 5.2% of the TCH's schedules originating that hour from federal resources within the BPAT control area.
  - Furthermore, I thought that once the scheduling accounts were built and the proper pointers assigned that indicate whether the source generation was thermal or hydro, then the operating reserve capacity obligation that was to be self-provided by the TCH would automatically be calculated each hour and sent from the BPAT scheduling system to the BPAT EMS before the start of each hour;
  - Section E.1. suggests that the TCH's operating reserve capacity obligation would be calculated differently from what I had heard at the work group (i.e. it suggests that the capacity obligation could change continuously within the current hour).
  - Section D. 4a & 4b are confusing to me as I am not sure if they refer to the calculation of a TCH's operating reserve capacity obligation?

Clarify Section C. 10 – last sentence:

- I thought that the % deployment of a self-supplying TCH's operating reserve was a function of the MW loss in the BPAT control area divided by the total Contingency Reserve Obligation of the BPAT control area. For instance, if the Generation contingency was 200 MW and the BPAT CRO at the time was 500 MW then the self-supplying TCH would be directed to dispatch 40% of his operating reserve capacity. Whereas, if the Generation contingency was 700 MW and the CRO was 500 MW, then the self-supplying TCH would be directed to dispatch 100% of his operating reserve capacity. Section C.10 seems to suggest something different from this?

Clarify the definition of Allocation Ratio:

- Two definitions are provided:
  - Section I. 1.: "Allocation Ratio: The portion of the BPAT Control Area reserve obligation assigned or allocated to a party that is providing resources to meet its operating reserve requirements, rather than purchasing its operating reserves from BPAT".
  - Section C. 10. "The Allocation Ratio is the sum of all generator sourced transmission schedules plus the sum of all the transmission Customers' generation estimates of Control Area generation serving the customer's load responsibility divided by the total generation in the BPAT Control Area, multiplied by the WECC reserve obligation percentage."
- I think that the definitions may be compatible, however, I find Section C.10. hard to understand.

I think it would be helpful to add a second example to the Operating Reserve Business Practice that outline the steps that would be required in order for the TCH to self-supply operating reserves.

**Example of how a TCH could self-supply Operating Reserves?**

*If a TCH wanted to self-supply Operating Reserves in the BPAT control area during FY2004 then it would need to follow the process outlined below:*

*Step 1: Annual Election: No later than 1 July 2003, a TCH must send written notification of its intention to self-supply the operating reserve requirements associated with its schedules originating with generators within the BPA control area for the period of October 1 2003 – September 30, 2004.*

*Step 2: BPAT review of TCH's request: BPAT must determine if the TCH is capable of reliably supplying part of the BPA Operating Reserve Obligation, this may include subjecting the TCH's resources to performance tests;*

*Step 3: BPAT sends a letter to the TCH to advise it of BPAT's decision*

*Step 4 BPAT and TCH execute an Operating Agreement that would require the TCH's Operating Reserve Resources to be responsive to dispatch instructions sent by the BPAT EMS;*

*Step 5 TCH and BPAT make the necessary changes to their respective EMS systems.*

*Step 6 TBL builds all the accounts in RODs that would be required to support the TCH's self-supplying its own operating reserve (i.e. an account between the TCH's Operating Reserve resource and every generator in the BPA system would need to be set up so that when a generator in the BPA control area is forced out of service, the energy delivered by the the TCH's Operating Reserve Resource will be credited for providing pro-rata reserve energy; similarly, accounts would need to be set up between the TCH's resource and every member of the NWPP so that when the BPA control area is called on the provide pro-rata reserves to a NWPP member who has suffered a contingency they will be credited with their share of the energy provided).*

*Step 7 BPAT will credit the TCH's account whenever its operating reserve resources are dispatched following a generation contingency. Conversely, whenever a generator supplying one of the TCH's schedules is forced out of service, then BPAT would charge the TCH for the operating reserves supplied from the BPAT control area to backup the TCH's schedule. It is the responsibility of the TCH to recover the costs of the operating reserve charges from the generator it had contracted with.*